

**NATURAL RESOURCE CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**BRUSH MANAGEMENT
(Acre)**

CODE 314

DEFINITION

Removal, reduction, or manipulation of non-herbaceous plants.

PURPOSES

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes.

- Restore natural plant community balance.
- Create the desired plant community.
- Restore desired vegetative cover to protect soils, control erosion, reduce sediment, improve water quality, and enhance stream flow.
- Maintain, modify, or enhance wildlife habitat including that associated with threatened and endangered species.
- Improve forage accessibility, quality and quantity for grazing livestock.
- Manage fuel loads to achieve desired conditions

CONDITIONS WHERE THIS PRACTICE APPLIES

On rangeland, native pasture, pasture and hay and other lands where removal or reduction of excessive woody (non-herbaceous) plants is desired.

CRITERIA

General Criteria Applicable For All The Purposes Stated Above.

Brush management will be designed and applied to achieve the desired plant community's plant density, canopy cover, or height.

Brush management will be applied in a manner to achieve the desired control of the target woody species and protection of desired species. This will be accomplished by mechanical, chemical, biological, prescribed burning or a combination of these methods.

All methods of brush management must be integrated with other components of the conservation plan to achieve the RMS level.

Prescribed Grazing and other needed practices shall be applied at the RMS level to ensure desired response from treatments.

The brush management component of an RMS plan will be planned and designed in accordance with the 1990 MOU between IDF&G and NRCS.

When brush management is proposed within sage grouse habitat the landowner will be notified that NRCS and/or Idaho Department of Fish and Game will need time (30 days) to locate critical areas such as leks, nesting, brood-rearing, and wintering areas during the planning process. As per the MOU between the IDF&G and NRCS, additional time may be requested by IDF&G to complete their inventory of the area. Alternatives will be proposed for the site to address sage-grouse habitat within the project area.

Additional Criteria for Improving Wildlife Habitat.

Brush Management will be planned and applied in a manner to protect and/or restore native historic plant communities identified in applicable ecological site descriptions (ESD) and the habitat requirements of the wildlife species of concern.

Brush management will be planned in a manner that will not adversely affect threatened or endangered species or their habitats.

When planning within sage-grouse habitat NRCS will utilize guidelines identified in Appendix D of the Idaho State Sage-grouse Plan (http://fishandgame.idaho.gov/cms/hunt/grouse/conserv_plan/Appendix_D_706.pdf) to address lek, nesting, brood rearing and wintering areas to help protect and enhance their habitat.

Additional sage-grouse biology information is available in National Biology Technical Note 31 (http://directives.nrcs.usda.gov/media/pdf/tn_b_31_a.pdf).

Additional Criteria for Managing Fuel Loads

Control undesirable woody plants in a manner that creates the desired plant community thereby resulting in desired fuel load conditions.

CONSIDERATIONS

Timing and sequence of brush management in a pasture and/or the entire operating unit will be planned in coordination with the prescribed grazing plan.

Consider soil erosion potential and difficulty of vegetation establishment when choosing a method of control that causes soil disturbance.

Consider the economic return of brush management as related to production potential of the site.

When primary use is for domestic livestock, the objective may be to manipulate numbers, species, and distribution of brush to maximize forage production. Consider additional objectives for wildlife that may be to maintain more brush than is natural to the site and to manage the brush in a pattern on the land that favors both livestock and wildlife. Consider leaving odd areas and draws for shade, wildlife, landscape diversity, or esthetic value.

Where wildlife is the primary use brush should be manipulated to provide optimum wildlife habitat.

Consider the use of pest-control methods having the least potential hazard or adverse impact on man, animals, and the environment.

Contact all land management agencies in the immediate vicinity to determine if they have any brush management projects proposed that may influence decisions during the planning process.

When spraying with chemicals near riparian areas caution should be taken to avoid damage to riparian vegetation and protect water quality. Extreme caution needs to be exercised when using 2, 4-D near any willows.

Conservationists are to (1) encourage cooperators to fully consider present and future land use opportunities in relation to brush management, including expected effect on wildlife habitat, potential recreation use, and attractiveness of the landscape; (2) determine that the landowner understands the technical requirements, possible hazards, and costs of the practice and the landowner will apply the kind of grazing management and maintenance measures that will insure success; and (3) help land users understand the environmental impacts of brush management, both positive and negative, onsite and offsite.

WATER QUANTITY CONSIDERATIONS

Consider the effects of improved vegetation on the water budget, especially on volumes and rates of infiltration and runoff.

Where applicable, consider the effects of snow catch and melt on the water budget.

Consider the potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Consider the effects on downstream flows or aquifers that would affect other water uses or users.

WATER QUALITY CONSIDERATIONS

Consider effects of short-term soil disturbance on erosion and movement of sediment and soluble and sediment-attached substances carried by runoff.

PLANS AND SPECIFICATIONS

Shall include:

- (1) Dates or growth periods for effective treatment;
- (2) Acceptable alternative materials, equipment, and methods;
- (3) Types of areas, and kinds and amounts of brush and trees that should be favored for wildlife habitat, natural beauty, and recreation;
- (4) Patterns and kinds of plants to be left and maintained for wildlife food and cover;
- (5) Grazing management prior to and following brush management treatment and other maintenance needed;
- (6) Identification of wildlife species of concern;
- (7) Canopy cover of brush before treatment and post treatment goals; and
- (8) Wildlife habitat protected or enhanced (i.e. sage-grouse nesting cover or brood rearing habitat).

When chemical treatments are proposed NRCS will provide treatment alternatives during plan development.

Brush management generally will not be considered on any species unless canopy cover exceeds 25% using the Line–Point Intercept method (ID-CPA-016) for treatment area.

An irregular buffer strip will be left along perennial streams, lakes, marshes and upland meadows. Willows in riparian areas will not be sprayed.

Low volatile esters or other low volatile chemicals will be used on any brush management project where drift of chemical spray is of concern.

190-GM, Part 404 Pest Management, 404.31 states that NRCS does not develop pesticide recommendations or change label instructions or recommend specifications for pesticide application.

State issued licenses are required when using chemical pesticide treatments.

Plowing or Rotary Tiller Equipment

Equipment will be operated at depths sufficient to sever roots or crowns and at angles to ensure completely cutting roots to sufficiently remove or reduce plant competition to planned levels.

Time of operation will be in late spring or early summer when soil conditions are favorable for plowing.

Operation will be completed prior to any seed set of species being controlled during season of control.

Railing and Dragging Equipment

Any rail or object dragged must be heavy enough to sufficiently remove or reduce plant (brush species being controlled) composition capable of reproduction to achieve management objectives upon completion of operation.

Operation will be completed prior to any seed set of species being controlled during season of control.

Chaining Equipment

Heavy anchor chains of at least 75-150 pounds per link will be used. A swivel will be used where connected to tractors to allow for tumbling and turning of chain.

Number of operations will be sufficient to remove or reduce plant (brush species being controlled) composition capable of reproduction to achieve management objectives upon completion of operation.

Operations will be completed prior to any seed set of species being controlled during season of control.

This method of control will not be used on any sprouting species except on areas of land being treated where primary use of land is by wildlife.

Beating Equipment

Flail type rotary and circular beaters and saw type equipment can be used.

Equipment will be set to operate about 4 inches (+/- 2 inches) above the ground level and sufficient to remove or reduce plant (brush species being controlled) composition capable of reproduction to achieve management objectives upon completion of operation.

Operation will be completed prior to any seed set of species being controlled during season of control.

This method of control will not be used on any sprouting species except on areas of land being treated where primary use of land is by wildlife.

Prescribed Burning

Use specification for Prescribed Burning (338).

Chemical Equipment

Helicopter, fixed wing, ground moving or hand spraying equipment can be used.

Fixed wing or helicopter can be used when wind speeds are not generally exceeding 7 miles per hour. (Exception: Pelletized chemicals may be applied at higher wind speeds; however, operation safety must be of top concern).

Ground moving equipment can be used with wind speeds up to or generally not exceeding 10 miles per hour.

Rates and timing of application must be such that plant (brush species being controlled) composition capable of reproduction are reduced to achieve management objectives by the beginning of the following growing season.

All brush management areas treated by early summer will be deferred from grazing until seed ripe of key species the year the practice is installed.

All brush management areas treated from early summer through fall and winter will be followed by deferment until seed ripe of key species the following year.

Plans and specifications will be prepared for each pasture, field, or management unit where Brush Management will be applied.

Mechanical, chemical, and biological procedures and prescribed burning may be used singly or in combination, depending on such factors as (1) kind of land (site); (2) topography; (3) species of woody plants-whether they are root-sprouters or non-sprouters; (4) size, abundance, and distribution of woody plants; (5) hazards of treatment, if any; (6) objectives of the land user; and (7) costs in relation to expected benefits.

Plans and specifications will be based on the practice standard and may include narratives, maps, drawings, job sheets, or similar documents. These documents will contain the following data as a minimum:

Brush canopy and/or species count, transect line locations and percent canopy and/or species numbers per acre of the target plant(s).

As needed, maps or drawings showing areas to be treated and areas to be left undisturbed should be prepared.

For mechanical treatment methods, plans and specifications will include types of equipment and any modifications necessary to enable the equipment to adequately complete the job. Also included should be:

- Dates of treatment
- Operating instructions
- Techniques or procedures to be followed

For chemical treatment methods, plans and specifications will include:

- Herbicide name
- Rate of application or spray volumes
- Acceptable dates of application
- Mixing instructions (if applicable)
- Any special application techniques, timing considerations, or other factors that must be considered to ensure the safest, most effective application of the herbicide
- Reference to label instructions.
- Documentation of the use of environmental risk analysis tools (such as WIN-PST Soil Pesticide Interaction Loss Potential and Hazard Rating Report) in formulating alternatives with the client.

For biological treatment methods, plans and specifications will include:

- Kind of biological agent or grazing animal to be used
- Timing, duration, and intensity of grazing or browsing
- Desired degree of grazing or browsing use for effective control of target species
- Maximum allowable degree of use on desirable non-target species
- Special precautions or requirements when using insects or plants as control agents

Brush Management practices shall be applied using approved materials and procedures. Operations will comply with all local, state, and federal laws and ordinances.

Success of the practice shall be determined by evaluating re-growth or reoccurrence of target species after sufficient time has passed to monitor the situation and gather reliable data. Evaluation periods will depend on the methods and materials used.

Maintenance

Following initial application, some re-growth, re-sprouting, or reoccurrence of brush should be expected. Spot treatment of individual plants or areas needing re-treatment should be done as needed.

OPERATION AND MAINTENANCE

Operations